

REMARKS

A. Summary of the Claims

Claims 1-20 were originally filed. In response to a prior restriction requirement, Applicants withdrew claim 12 from consideration. In response to the present restriction requirement, Applicants are withdrawing claims 11 and 17-20 from consideration. Claims 1-10 and 13-16 remain pending. Of these claims, claim 1 is independent. In the present response, Applicants have amended claims 6 and 7. The subject matter of the amendment to claim 6 is found generally throughout the specification, including, but not limited to, paragraph [0012]. The subject matter of the amendment to claim 7 is found generally throughout the specification, including, but not limited to, the originally filed claims. No new matter has been added.

B. Summary of the Non-Final Office Action

In the Non-Final Office Action mailed on April 14, 2008, the Examiner: (i) provided further clarification of the restriction requirement mailed on October 18, 2007, and withdrew claim 11 from consideration based on Applicants' election of claims 1-11 and 13-20 in the Response filed on December 17, 2007; (ii) confirmed the details of the March 2008 telephone restriction where the Examiner required further restriction of the claims into one of a first group consisting of claims 1-10 and 13-16 directed to a system, and a second group consisting of claims 17-20 directed to a method, where Applicants' representative elected the first group consisting of claims 1-10 and 13-16; (iii) rejected claims 6, 7, and 17-20 under 35 U.S.C. § 112, second paragraph, as allegedly indefinite; (iv) rejected claims 1-9 and 13-16 as allegedly anticipated by a technical publication titled "Control of widely tunable SSG-DBR lasers for dense wavelength division multiplexing" by Sarlet (hereinafter "Sarlet"); and (v) objected to

claim 10 as being dependent on a rejected base claim, but indicated that claim 10 would be allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claims. Applicants thank the Examiner for the thorough examination, and for indicating allowable subject matter.

C. Response to the Restriction Requirement

In March 2008, the Examiner telephoned Applicants' representative, and the Examiner required further restriction of the claims into one of either a first group consisting of claims 1-10 and 13-16 directed to a system, or a second group consisting of claims 17-20 directed to a method. Applicants' representative elected the first group consisting of claims 1-20 and 13-16 directed to a system. Applicants hereby confirm the telephone election of claims 1-10 and 13-16 without traverse, and reserve the right to pursue the subject matter of the non-elected claims in a divisional application.

D. Response to the 112 Rejections of Claims 6, 7, and 17-20

Claims 6, 7, and 17-20 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite for failing to point out the subject matter which Applicants regard as the invention.

Without conceding the merits of the rejection, and in an earnest attempt to advance prosecution, Applicants have amended claims 6 and 7 and respectfully request withdrawal of the rejection in view of the amended claim language.

Additionally, Applicants have withdrawn claims 17-20 from consideration in response to the Examiner's restriction requirement, thereby rendering the rejection of claims 17-20 moot.

E. Response to the 102 Rejections of Claims 1-9 and 13-16

Claims 1-9 and 13-16 stand rejected as allegedly anticipated by Sarlet. In response, Applicants submit that the rejection is improper and should be withdrawn for at least the reason that Sarlet fails to disclose, expressly or inherently, each and every recited claim element.

Applicants' disclosure is generally directed to "frequency setting of a multisection laser diode taking into account thermal effects." (Applicants' Specification, Title.) One aspect of Applicants' disclosed systems involves sweeping a diode laser in a pre-determined frequency direction through a series of frequency points, and locking the laser to each frequency point in the series of frequency points. Each of the frequency points are set by control values that are based on known thermal transients that occur when sweeping the diode laser through the series of frequency points. (Applicants' Specification, paragraph [0025].) As the diode laser steps from one frequency point to the next, each step incurs a temperature change, and the temperature change can cause a frequency error in the laser output. (See, e.g., Applicants' Specification, paragraph [0022].) Applicants' disclosed systems minimize the potential frequency error by (i) anticipating the sign and magnitude of the temperature change before changing the frequency, and (ii) shifting the target set point to account for the anticipated temperature change.

The above-described aspects of Applicants' disclosed systems are recited in claim 1 as "a controller operable to sweep the diode laser in a pre-determined frequency direction through a series of frequency points by asserting a pre-calibrated series of sets of control input values to the sections of the diode laser and using the wavelength locker to lock to each of the frequency points, wherein...the sets of control input values are pre-determined to take account of thermal transients that are known to arise from jumps in the output modes that occur when sweeping through the pre-calibrated series of sets of control input values in the pre-determined frequency

direction.” Applicants submit that Sarlet fails to disclose, expressly or inherently, the above-recited elements of claim 1.

In contrast to claim 1, the Examiner’s cited section of Sarlet describes stabilizing the wavelength of a tunable laser at a specific channel on the 100-GHz ITU grid rather than “sweep[ing] the diode laser in a pre-determined frequency direction through a series of frequency points...and using the wavelength locker to lock to each of the frequency points,” as recited in claim 1. (See Sarlet, IV. Feedback Control - Experiments, A. Static Operation.) While the tuning described in Sarlet may inherently pass a number of laser frequencies before stabilizing on the desired frequency, Sarlet does not describe locking the laser to any frequency except the desired frequency on the 100-GHz ITU grid. Because Sarlet discloses locking the laser only to the desired frequency on the 100-GHz ITU grid, Applicants submit that Sarlet does not disclose, expressly or inherently, “sweep[ing] the diode laser in a pre-determined frequency direction through a series of frequency points...and using the wavelength locker to lock to each of the frequency points,” as recited in claim 1. Therefore, Applicants submit that claim 1 is allowable over Sarlet for at least this independent reason.

Additionally, Sarlet does not disclose “asserting a pre-calibrated series of sets of control input values to the sections of the diode laser wherein...the sets of control input values are pre-determined to take account of thermal transients that are known to arise from jumps in the output modes that occur when sweeping through the pre-calibrated series of sets of control input values in the pre-determined frequency direction,” for at least the reason that Sarlet does not disclose “sweep[ing] the diode laser in a pre-determined frequency direction through a series of frequency points...and using the wavelength locker to lock to each of the frequency points,” as set forth above. Moreover, Applicants review of the cited sections of Sarlet revealed no

discussion of “asserting a pre-calibrated series of sets of control input values to the sections of the diode laser wherein...the sets of control input values are pre-determined to take account of thermal transients that are known to arise from jumps in the output modes that occur when sweeping through the pre-calibrated series of sets of control input values in the pre-determined frequency direction,” as in claim 1. At most, Sarlet states that temperature changes can cause frequency drift. (See Sarlet, IV. Feedback Control - Experiments, A. Static Operation.) However, Sarlet does not disclose compensating for the expected temperature changes with “sets of control input values [that are] pre-determined to take account of thermal transients,” as in claim 1. Therefore, Applicants submit that Sarlet does not disclose, expressly or inherently, “asserting a pre-calibrated series of sets of control input values to the sections of the diode laser wherein...the sets of control input values are pre-determined to take account of thermal transients that are known to arise from jumps in the output modes that occur when sweeping through the pre-calibrated series of sets of control input values in the pre-determined frequency direction,” as recited in claim 1, and that claim 1 is allowable for at least this additional independent reason.

Because Sarlet fails to expressly or inherently disclose “a controller operable to sweep the diode laser in a pre-determined frequency direction through a series of frequency points by asserting a pre-calibrated series of sets of control input values to the sections of the diode laser and using the wavelength locker to lock to each of the frequency points, wherein...the sets of control input values are pre-determined to take account of thermal transients that are known to arise from jumps in the output modes that occur when sweeping through the pre-calibrated series of sets of control input values in the pre-determined frequency direction” as recited in claim 1, Applicants submit that Sarlet does not anticipate claim 1, and that claim 1 is therefore allowable

over Sarlet. Furthermore, without conceding the merits of the Examiner's assertions, Applicants submit that claims 2-10 and 13-16 are allowable for at least the reason that they depend from allowable claim 1.

F. Conclusion

Applicants submit that the present application is in condition for allowance, and Applicants respectfully notice to that effect. Should the Examiner feel that further dialog would advance the subject application to issuance, the Examiner is invited to telephone the undersigned at (312) 913-0001.

Respectfully submitted,
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